Abstract

This seminar features Dr. Li An's most recent research in uncovering hidden forces (invisible hand) in many complex human-environment systems through employing the complexity theory and a set of geospatial analytics (including statistical analysis and modeling). First, an NSF sponsored research about payments for ecosystem services (PES) is presented. Based on household survey data about China's Grain-to-Green Program (GTGP) and National Forest Conservation Program (NFCP) at Fanjingshan National Nature Reserve (China), we examined what factors may explain local people's willingness to participate in the GTGP and NFCP programs. We found that GTGP and NFCP are surprisingly weakening or canceling out each other. The implication of this finding is profound as many other PES programs are implemented globally, while little (if not nothing) coordination and substitution among PES programs are being considered. Furthermore, Dr. An has briefly talked about several geospatial analytics from his other projects, including the effects of spatial diffusion (using the eigenvector spatial filtering approach), geospatial latent trajectory modeling of time series spatial data, and geovisualization-simulation of human decision-making in an agent-based model.